

AMENDMENTS TO THE CLAIMS:

Replacement Claim Set:

1. (Currently Amended) A method of forming a coating on a stent, comprising:

applying a coating formulation from a coating dispenser to a stent, the coating formulation including a first ingredient and a second ingredient;

and

modifying the ratio of the first ingredient with respect to the second ingredient in the coating formulation as the coating formulation is being applied to the stent while the coating formulation is being discharged out from the coating dispenser and onto the stent.
2. (Original) The method of Claim 1, wherein the act of applying comprises spraying the coating formulation on the stent.
3. (Original) A stent comprising a coating produced in accordance with the method of Claim 1, wherein the coating has a first region and a second region wherein the quantity of the first ingredient with respect to the second ingredient is different in the first region as compared to the second region.
4. (Currently Amended) The method of Claim 1, wherein the first ingredient ~~is a polymeric material~~ comprises a polymer and the second ingredient ~~is~~ comprises a therapeutic substance.
5. (Currently Amended) The method of Claim 4, wherein the ~~polymeric material~~ polymer is selected from the group consisting of an ethylene vinyl alcohol copolymer, poly(butylmethacrylate), poly(ethylene glycol), amorphous Teflon, and poly(ethylene-co-vinyl acetate).

6. (Original) The method of Claim 4, wherein the therapeutic substance is selected from the group consisting of actinomycin D, paclitaxel, docetaxel, rapamycin, β -estradiol and BAK Heparin.

7. (Currently Amended) The method of Claim 1, wherein the first ingredient comprises is a first ~~polymeric material~~ polymer and the second ingredient comprises is a second polymer ~~polymeric material~~.

8. (Original) The method of Claim 1, wherein the ratio is modified by gradually increasing the concentration of the first ingredient in the coating formulation from the initiation of the application of the coating formulation to the stent until the termination of the application of the coating formulation to the stent.

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)
18. (Canceled)
19. (Withdrawn) The method of Claim 1, wherein the first and second ingredients are different therapeutic substances.
20. (Previously Presented) The method of Claim 1, wherein the modifying comprises maintaining the amount of the first ingredient constant and increasing or decreasing the amount of the second ingredient.
21. (Previously Presented) The method of Claim 1, wherein the coating formulation is applied to form a coating that includes a first region and a second region above the first region, and wherein the first region is free from the second ingredient.
22. (Previously Presented) The method of Claim 21, wherein the first ingredient is a first polymeric material and the second ingredient is a second polymeric material, and wherein the first polymeric material is for increasing the adhesion of the coating on the stent, and the second polymeric material is for increasing the blood compatibility of the coating.
23. (Currently Amended) A method of forming a coating on an implantable medical device, comprising:
- applying a coating formulation to an implantable medical device, the coating formulation including a first ingredient, a second ingredient and a third ingredient; and
- modifying the ratios of at least two of the ingredients with respect to each other in the coating formulation while the coating formulation is being

~~applied to the device~~ supplied to a coating dispenser for discharging onto the device.

24. (Previously Presented) The method of Claim 23, wherein the coating formulation is applied to form a coating that includes a first region, a second region and a third region.

25. (Previously Presented) The method of Claim 24, wherein the first ingredient is a first polymeric material, the second ingredient is a second polymeric material, and the third ingredient is a therapeutic substance, and wherein the first region is free from the second polymeric material, and the third region is free from the first polymeric material and the therapeutic substance.

26. (Currently Amended) The method of Claim ~~24~~ 23, wherein the modifying comprises maintaining the amount of at least one of the first, second or third ingredients constant.

27. (Currently Amended) The method of Claim ~~24~~ 23, wherein the ~~concentration~~ amount of at least one of the first, second or third ingredients in the coating formulation increases or decreases at a constant rate as the coating formulation is being applied to the device.

28. (Currently Amended) The method of Claim ~~24~~ 23, wherein the applying comprises spraying the coating formulation on the device.

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Currently Amended) A method of forming a coating on an implantable medical device, comprising:

applying a coating formulation to an implantable medical device, the coating formulation including a first ingredient and a second ingredient; and

modifying the ratio of the first ingredient with respect to the second ingredient to form regions of a coating having a graduated interface between the first and second ingredients, wherein the modification occurs without interrupting the application of the coating formulation onto the device from a coating dispenser.

35. (Previously Presented) The method of Claim 1, wherein the coating formulation additionally includes a third ingredient.

36. (Previously Presented) The method of Claim 35, additionally comprising modifying the amount of the third ingredient as the coating formulation is being applied to the stent.

37. (Previously Presented) The method of Claim 35, additionally comprising modifying the ratios of the first, second and third ingredients with respect to each other as the coating formulation is being applied to the stent.

38. (Previously Presented) The method of Claim 35, wherein during the modifying, the amount of the third ingredient is keep constant.

39. (Previously Presented) The method of Claim 35, wherein the first ingredient is a polymer, the second ingredient is a drug and the third ingredient is a solvent.
40. (Previously Presented) The method of Claim 35, wherein the first ingredient is a first polymer, the second ingredient is a second polymer, and the third ingredient is a solvent.
41. (Previously Presented) The method of Claim 35, wherein applying is by spraying.
42. (Previously Presented) The method of Claim 35, wherein the first, second and third ingredients can each be any one of a polymer, a drug or a solvent.
43. (Previously Presented) The method of Claim 1, wherein the amount of the first ingredient is zero at the start of the application of the coating formulation.
44. (Previously Presented) The method of Claim 43, wherein the first ingredient is a drug.
45. (Previously Presented) The method of Claim 1, wherein the amount of the first ingredient is zero at the start of the application of the coating formulation and sometime thereafter.
46. (Previously Presented) The method of Claim 45, wherein the first ingredient is a drug.
47. (New) The method of Claim 1, wherein the modification is controlled by a computer.
48. (New) The method of Claim 1, wherein the modification comprising adjusting the amount of the first and/or second ingredient that is supplied to the coating dispenser.
49. (New) The method of Claim 48, wherein the amount of the first and/or second ingredient that is supplied to the coating dispenser is controlled by at least one valve so as to modify the ratio between the first and second ingredients.

50. (New) The method of Claim 49, wherein the at least one valve is in communication with a controller for controlling the operation of the at least one valve.

51. (New) The method of Claim 1, wherein

the first ingredient is contained in a first source in fluid communication with a mixer, and

the second ingredient is contained in a second source in fluid communication with the mixer, the mixer being in communication with the coating dispenser, wherein the ratio of the first ingredient with respect to the second ingredient is adjusted at the mixer prior to being supplied into the coating dispenser.

52. (New) The method of Claim 51, wherein the amount of the first ingredient supplied to the mixer is controlled by a first valve and the amount of the second ingredient supplied to the mixer is controlled by a second valve.

53. (New) The method of Claim 1, wherein the first ingredient comprises at least one polymer and at least one solvent and the second ingredient comprises at least one polymer and at least one solvent.

54. (New) The method of Claim 1, wherein the coating dispenser comprises an atomized spray nozzle.

55. (New) The method of Claim 34, wherein the first ingredient comprises a polymer and the second ingredient comprises a drug.

56. (New) The method of Claim 34, wherein the first ingredient comprises a first polymer and the second ingredient comprises a second polymer.

57. (New) The method of Claim 34, wherein the modification is conducted by a controller and at least one valve.

58. (New) The method of Claim 34, wherein the first and second ingredients are mixed

and modified in a mixer prior to being supplied to the coating dispenser.

59. (New) The method of Claim 34, wherein the first ingredient comprises a polymer dissolvent in a solvent and the second ingredient comprises a drug in a fluid carrier.

60. (New) The method of Claim 34, wherein the coating dispenser comprises a spray applicator.

61. (New) The method of Claim 34, additionally comprising, supplying the first ingredient from a first supply source to the coating dispenser and supplying the second ingredient from a second supply source to the coating dispenser such that a valve controls the amount of the first ingredient being supplied to the coating dispenser.

62. (New) The method of Claim 61, wherein the first and second ingredients are supplied into a mixer prior to being supplied to the coating dispenser.

63. (New) The method of Claim 61, wherein a second valve controls the amount of the second ingredient being supplied to the coating dispenser.

64. (New) The method of Claim 63, wherein the first and second ingredients are supplied into a mixer prior to being supplied to the coating dispenser.

65. (New) The method of Claim 34, wherein the device is a stent.